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Patent

Serial No. 10/509,233


Appeal in Reply to Final Office Action of June 30, 2006
and Advisory Action of September 14, 2006

TO THE UNITED STATES PATENT AND TRADEMARK OFFICE

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By


(Signature) Gregory L. Thorne

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Atty. Docket: NL 020279

BOB VAN SOMEREN ET AL.

Group Art Unit: 2627

Serial No. 10/509,233

Examiner: PARUL H. GUPTA

Filed: SEPTEMBER 24, 2004

CONF. NO. 3262

TITLE: WRITING SCHEME FOR AN OPTICAL RECORDING MEDIUM

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is an Appeal Brief in the above-identified patent application.

NL020279-appeal cover-11-27-06.DOC

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It is believed that no additional fees or charges are currently due beyond the fee for the Appeal Brief to be charged to the credit card as noted by the enclosed authorization. However, in the event that any additional fees or charges are required for entrance of the present Appeal Brief, they may be charged to Appellant's representatives Deposit Account No. 50-3649. In addition, please credit any overpayments related to any fees paid in connection with the present Appeal Brief to Deposit Account No. 50-3649.

Respectfully submitted,

By _____
Gregory L. Thorne, Reg. 39,398

Attorney for Appellant
November 27, 2006

Enclosure: Appeal Brief
Authorization to charge credit card \$500 for Appeal
Brief fee

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APPEAL BRIEF

Sir:

Appellant herewith respectfully presents its Brief on Appeal
as follows:

11/28/2006 TL0111 00000007 18509233

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REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

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RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge and belief, there are no
related appeals or interferences.

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STATUS OF CLAIMS

Claims 1-22 are pending in this application. Claims 1-20 are rejected in the Final Office Action that issued June 30, 2006 and Claims 21 and 22 are allowed. The rejection of Claims 1-20 is upheld in the Advisory Action that issued September 14, 2006. The rejection of Claims 1-20 is the subject of this appeal.

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STATUS OF AMENDMENTS

An Amendment After Final Action was filed August 7, 2006 in response to a Final Office Action that issued June 30, 2006. The Advisory Action of September 14, 2006 upheld the rejection in response to that amendment. This Appeal Brief is in response to the Final Office Action of June 30, 2006 that rejected Claims 1-20 and the Advisory Action that upheld that rejection.

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SUMMARY OF CLAIMED SUBJECT MATTER

The present system relates to a method and apparatus for writing data to optical recording media (see, page 4, lines 15-17) that alleviates a folding problem (emphasis added) "during the writing or mastering process by realizing marks, e.g. pit effects, as incomplete marks, which do not form large mirror surfaces when combined in clusters of adjacent pits." (See, page 4, lines 20-22.) Accordingly, as is readily appreciable by a person of ordinary skill in the art, the marks are the data areas which the present system suggests may be provided as incomplete areas to avoid the folding problem. The specification makes clear that (emphasis added) "[t]he incomplete marks may be obtained by modulating the shape of pit effects in any manner suitable to reduce the reflection surface and/or to increase diffraction." (See, page 4, lines 23-24.) In one embodiment wherein the data area is indicated as a pit surrounding a non-data pillar area, the specification makes clear that (emphasis added) "the bottom surface of the pit effects can be modulated e.g. by introducing one or a plurality of protrusions, e.g. pillars, or holes or any other

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regularities or irregularities, by which the reflection of the read-out radiation beam is reduced or by which the read-out radiation beam is diffused or diffracted." (See, page 6, lines 21-24.) "Fig. 4 shows a schematic view of an incomplete pit effect according to a first preferred embodiment, wherein a cylindrical pillar P is formed substantially in the central portion of the respective pit effect. The top of the pillar P forms a land area left over." (See, page 6, lines 25-27.) The left over area clearly is not expressed as a data region. The present system describes another embodiment wherein "[a]lternatively, according to a second preferred embodiment, the dark circular portion [of FIG. 4] may as well represent a small circular pit hole arranged in a substantially central portion of the channel bit area allocated to the pit effect. Thus, the incomplete pit effect is formed by a remaining edge portion at land level and a central pit hole with a lower bottom level." (See, page 7, line 31 through page 8, line 3.)

It should be explicitly noted that it is not the Applicants' intention that the currently claimed method be limited to operation within this illustrative method or devices described herein beyond

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what is required by the claim language. Further description of the illustrative embodiments is provided indicating portions of the claims which cover the illustrative system merely for compliance with requirements of this appeal without intending any further interpreted limitations be read into the claims as presented.

The method, apparatus and record carrier, for example as stipulated in corresponding Claims 1, 15, and 18 includes writing information to an optical recording medium by forming mark areas corresponding to a predetermined state of said information on a recording surface of said optical recording medium (see, page 6, lines 9-12). The method further includes adapting said forming step to modulate the shape of said mark areas in a predetermined manner so as to obtain incomplete mark areas which do only partly cover the area of the medium associated with the a channel bit to be written (see, page 6, lines 12-16). The claim further requires wherein incomplete mark areas are formed by surrounding a non-data area with a data area. This embodiment is described, for example, on page 6, lines 25-29 and is shown in FIG. 4 as described in more detail above. FIG. 1 shows an apparatus and data carrier in which

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the present system may be applied (see, FIG. 1, and page 5, lines 3-4).

The apparatus for example may be performed by "means of a kind of hollow-cone electron beam or by means of a high resolution writing beam scanned according to the shape of the pit effect, e.g. in a circle, to write the pit effect with the pillar P substantially in the center. For such a writing or mastering operation, a writing equipment, e.g. an electron beam mastering equipment, is required preferably with a resolution of at least four times the resolution of the read-out equipment." (See, page 7, lines 8-13.)

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GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-20 of U.S. Patent Application Serial No. 10/509,233 fail to comply with the written description requirement under 35 U.S.C. §112, first paragraph and whether Claims 1-20 fail to comply with the enablement requirement under 35 U.S.C. §112, first paragraph. The Appellants respectfully wish the Board to address the patentability of Independent Claims 1, 15 and 18, and further Claims 2-14, 16-17, and 19-20 as respectively depending on one of Claims 1, 15 and 18 based on the respective requirements of Claims 1, 15 and 18. This position is provided for the specific and stated purpose of simplifying the current issue on appeal. However, the Appellants herein specifically wish to reserve the right to argue and address the patentability of each of the further claims at a later date should the separately patentable subject matter of those claims later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of Claims 1, 15 and 18 is not intended as a waiver of Appellants' right to

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argue the patentability of the further claims and claim elements at
that later time.

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ARGUMENT

Claims 1-20 are said to fail to comply with the written description requirement under 35 U.S.C. §112, first paragraph and to fail to comply with the enablement requirement under 35 U.S.C. §112, first paragraph.

The Written Description Requirement under 35 U.S.C. §112,
first paragraph

35 U.S.C. §112, first paragraph requires that "[t]he specification shall contain a written description of the invention ..."

The Office Action asserts that, "[t]he claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification calls for the pits wherein the data area is surrounded by a non-data area, which is the opposite of what is now claimed in claims 1-20." (See, Office Action, page 2, numbered paragraph 1, lines 1-7.) The Office

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Action further asserts that "figures 4, 6A, 6B, and page 9, lines 20-26" require that "the data is the land/pit in the middle of the recording area LE/H. Hence the new limitation in the claims represents new matter." (See, Office Action, page 2, numbered paragraph 1, lines 7-9.)

These assertions are respectfully refuted and particularly, this rejection is respectfully traversed.

The Applicants maintain that the claims contain subject matter which is well described and supported in the specification, as submitted, to convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

It in fact is respectfully submitted the specification as submitted provides a clear written description of two embodiments wherein one describes an embodiment wherein a data area is surrounded by a non-data area and another wherein a non-data area is surrounded by a data area.

The Applicants respectfully direct the Board's attention to page 4, lines 20-24 of the specification wherein it is disclosed that (emphasis added) "[a]ccording to the invention, the folding

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problem can be prevented or alleviated during the writing or mastering process by realizing marks, e.g. pit effects, as incomplete marks, which do not form large mirror surfaces when combined in clusters of adjacent pits. The incomplete marks may be obtained by modulating the shape of pit effects in any manner suitable to reduce the reflection surface and/or to increase diffraction."

Further, the specification makes clear that in one embodiment "an incomplete pit effect ... [is formed] wherein a cylindrical pillar P is formed substantially in the central portion of the respective pit effect. The top of the pillar P forms a land area left over." (See, FIG. 4 and the accompanying description contained on page 6, lines 25-27.) Accordingly, in contrast with what is asserted in the Office Action, FIG. 4 illustrates an embodiment wherein an incomplete pit effect, namely data, is formed surrounding land data, namely non-data, as required by Claims 1-20. In this embodiment, the specification makes clear that "[t]he incomplete pit effect [e.g., data] with the pillar P [e.g., non-data] in the center prevents folding in case of too many adjacent pit effects [e.g., data] ... The pillars P lead to a diffraction of

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the incident radiation, e.g. laser light, mostly outside the pupil or lens of the detection system at the pick-up unit. Thereby, the intensity of the central aperture signal is reduced when the radiation beam is incident on large pit [data] areas." (See, page 6, lines 30-31.) The specification further describes that "to write the pit [data] effect with the pillar [non-data] P substantially in the center" the mastering of such an incomplete pit data effect may be performed. (See, page 7, lines 8-11.)

As made explicitly clear, "an incomplete pit effect according to an example of the write scheme of the present invention [as shown in FIG. 6A may show] the dark circular portion of the incomplete pit [data] effect indicates the pillar [non-data] P." (See, FIG. 6A and the accompanying description contained on page 7, lines 27-30.)

While it is true that the specification describes an embodiment wherein "the dark circular portion may as well represent a small circular [data] pit hole arranged in a substantially central portion of the channel bit area allocated to the pit effect. Thus, the incomplete pit [data] effect is formed by a remaining edge [non-data] portion at land level and a central pit

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[data] hole with a lower bottom level", the specification makes clear that this is an "alternative" embodiment than embodiments previously described. (See, page 7, line 31 though page 8, line 3.)

Accordingly, it is respectfully submitted that the specification supports at least these two embodiments, one wherein the data area is surrounded by a non-data area (the above described "alternate embodiment") and the one required by the claims wherein incomplete mark areas are formed by surrounding a non-data area with a data area (the first described embodiment). So even if arguendo, the specification is generally interpreted to describe a data area surrounded by a non-data area (a position which is strongly refuted herein), the Office Action has failed to address how the alternate embodiment would not accordingly describe the claimed system.

The advisory action has taken the position that since the specification utilizes the terms pit and pillar and not data and non-data, that the specification is deficient. This position is respectfully refuted. The specification makes clear that "the folding problem can be prevented or alleviated during the writing

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or mastering process by realizing marks, e.g. pit effects, as incomplete marks" as discussed above. A person of ordinary skill in the art would readily appreciate that it is the mark that is incomplete and accordingly, the incomplete portion is the mark data portion. Further, since both embodiments are fully described, either interpretation of the specification still leads to the claims as presented being well supported.

As should be clear from the above discussion, the element of "wherein incomplete mark areas are formed by surrounding a non-data area with a data area" as required by each of the pending claims is not new matter as this embodiment is well described in the specification as originally submitted. In light of the above discussion and the specification as originally submitted, the Applicants respectfully request that the above rejections of claims 1-20 under 35 U.S.C. §112, first paragraph allegedly for introducing new matter be reversed.

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The Enablement Requirement under 35 U.S.C. §112, First
Paragraph

35 U.S.C. §112, first paragraph requires that "[t]he specification shall contain a written description ... of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same ..."

The Office Action asserts that, "[t]he claim(s) contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which is it most nearly connected, to make and/or use the invention. The specification calls for the pits wherein the data area is surrounded by a non-data area, which is the opposite of what is now claimed in claims 1-20." The Office Action further states that "figures 4, 6A, 6B, and page 9, lines 20-26" require that "the data is the land/pit in the middle of the recording area LE/H. Hence the new limitation in the claims is not enabled and would require undue experimentation to make and use the invention."

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These assertions are respectfully refuted and particularly, this rejection is respectfully traversed.

As a first matter, as should be clear from the above discussion, the embodiment as required by Claims 1-20 is well described and enabled and as such, may be implemented by a person skilled in the art without undue experimentation and thereby, enables a person skilled in the art to make and/or use the invention.

A person skilled in this art would readily appreciate that any of numerous systems may be utilized for making the present data, two embodiments of which are described in the specification. However, as should be clear, the claims should not be understood to be limited to any such described embodiments unless the claims explicitly require such an embodiment. Illustratively, the specification describes that (emphasis added) "[t]he mastering of such an incomplete pit effect can be done, for example, by means of a kind of hollow-cone electron beam or by means of a high resolution writing beam scanned according to the shape of the pit effect, e.g. in a circle, to write the pit effect with the pillar P substantially in the center." The specification further suggests

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that for such a writing or mastering operation, a writing equipment, e.g. an electron beam mastering equipment, may be provided with a resolution of four times the resolution of the read-out equipment. (See, page 7, lines 8-13.)

Thus, not only is the present system well enabled, but even illustrative embodiments are provided particularly describing how the present system may be realized, although as is clear from the description, the claims should not be construed to be limited to the illustrative embodiments unless explicitly stated as such in the claims in that a person of ordinary skill in the art would readily appreciate that numerous other embodiments may be readily applied to arrive at the present embodiments required by the currently pending claims.

Therefore, Applicants contend that the disclosure as originally submitted more than adequately enables the present system, as for example required by Claims 1-20, to a person skilled in the present art. Accordingly, the Applicants respectfully request that the rejections of Claims 1-20 under 35 U.S.C. §112, first paragraph, alleged for a lack of enablement, be reversed.

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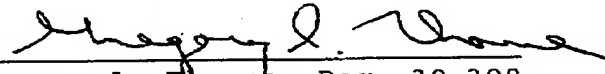
CONCLUSION

Claims 1-20 comply with both of the written description requirement and the enablement requirement of 35 U.S.C. §112, first paragraph.

Thus the Examiner's rejection of Claims 1-20 should be reversed.

Respectfully submitted,

By


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Attorney for Applicant(s)
November 27, 2006

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APPENDIX A

CLAIMS ON APPEAL

1. A method of writing information to an optical recording medium by forming mark areas corresponding to a predetermined state of said information on a recording surface of said optical recording medium, said method comprising the act of adapting said forming step to modulate the shape of said mark areas in a predetermined manner so as to obtain incomplete mark areas which do only partly cover the area of the medium associated with a channel bit to be written, wherein incomplete mark areas are formed by surrounding a non-data area with a data area.

2. A method according to claim 1, comprising the act of modulating said shape of said mark areas to obtain a reduced reflection at said mark area.

3. A method according to claim 2, wherein said mark area is a pit area, the method comprising the act of generating a protruding portion substantially in the center of said pit area.

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4. A method according to claim 3, wherein the top region of said protruding portion is adapted to form a land level portion substantially in the center of said pit area.

5. A method according to claim 3, comprising the act of adjusting the size of said protruding portion based on the size of a total pit area formed by adjacent pit areas.

6. A method according to claim 1, wherein said mark area is a pit area, the method comprising the act of generating a hole substantially in the center of said pit area.

7. A method according to claim 6, comprising the act of adjusting the size of said pit hole based on the size of a total pit area formed by adjacent pit areas.

8. A method according to any one of claim 1, comprising the act of forming said incomplete mark area by a focused electron beam or a focused laser beam.

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9. A method according to claim 1, wherein said optical recording medium is a phase-change recording medium and said incomplete mark area comprises a small amorphous mark.

10. A method according to claim 1, wherein said optical recording medium is a two-dimensionally encoded medium.

11. A method according to claim 10, comprising the act of arranging said incomplete pit area in a hexagonal grid of a two-dimensional coding scheme.

12. A method according to claim 1, wherein said method is used for mastering a record carrier.

13. A method according to claim 1, wherein said information is a multi-level coded information, the method comprising the act of modulating said shape of said incomplete pit area in accordance with the level of said multi-level coded information.

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14. A method according to claim 1, further comprising the act of forming a cluster pattern of said incomplete marks on each channel bit area and controlling the pattern in accordance with the level of a multi-level coded information.

15. An apparatus for writing an information to an optical recording medium by forming mark areas corresponding to a predetermined state of said information on a recording surface of said optical recording medium, said apparatus being adapted to modulate the shape of said mark areas in a predetermined manner so as to obtain incomplete mark areas which do only partly cover the area of the medium associated with a channel bit to be written, wherein incomplete mark areas are formed by surrounding a non-data area with a data area.

16. An apparatus according to claim 15, wherein said mark area is a pit area and said apparatus is arranged to form a pillar portion or a hole within said pit area.

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17. An apparatus according to claim 15, wherein said apparatus is arranged to write a multi-level coded information by controlling the shape or number of said incomplete mark areas in accordance with the level of said multi-level coded information.

18. A record carrier on which an information is written in the form of mark areas corresponding to a predetermined state of said information, wherein the shape of said mark areas is modulated in a predetermined manner so as to obtain incomplete mark areas which do only partly cover the area of the medium associated with a channel bit to be written, wherein incomplete mark areas are formed by surrounding a non-data area with a data area.

19. A record carrier according to claim 18, wherein said incomplete mark area is a pit area comprises a pillar portion or a hole.

20. A record carrier according to claim 18, wherein said information is a multi-level coded information, and wherein the

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shape or number of said incomplete mark areas defines a level of said multi-level coded information.

21. A method of writing an information to an optical recording medium by forming mark areas corresponding to a predetermined state of said information on a recording surface of said optical recording medium, said method comprising the step of adapting said forming step to modulate the shape of said mark areas in a predetermined manner so as to obtain incomplete mark areas which do only partly cover the area of the medium associated with a channel bit to be written, wherein said mark area is a pit area, and a protruding portion is generated substantially in the center of said pit area, and wherein the size of said protruding portion is adjusted based on the size of a total pit area formed by adjacent pit areas.

22.. A method of writing an information to an optical recording medium by forming mark areas corresponding to a predetermined state of said information on a recording surface of said optical recording medium, said method comprising the step of adapting said

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forming step to modulate the shape of said mark areas in a predetermined manner so as to obtain incomplete mark areas which do only partly cover the area of the medium associated with a channel bit to be written, wherein said mark area is a pit area, and a hole is generated substantially in the center of said pit area, and wherein the size of said pit hole is adjusted based on the size of a total pit area formed by adjacent pit areas.

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APPENDIX B

Evidence on Appeal

None

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APPENDIX C

Related Proceedings of Appeal

None